

### **REMARKS**

In the Office Action, the Examiner rejected claims 1-27. By the present response, the Applicant added new claims 40-45. These new claims do not add any new matter to the present application. Upon entry of these amendments, claims 1-27 and 40-45 will be pending in the present application. In view of the foregoing amendments and the following remarks, the Applicant respectfully requests reconsideration and allowance of all pending claims.

### **Rejections Under 35 U.S.C. § 102**

Claims 1-2, 4-6, 10-11, 16 were rejected under U.S.C. §102(a) as being anticipated by Linn et al. (U.S. Patent No. 6,143,376, hereinafter "Linn"). Of these, claim 1 is the only independent claim.

***Linn specifically teaches a method of decoating short fibers and cannot be compared with the method of coating as set forth in the claims.***

Claim 1 recites a method of coating a CMC fiber comprising passing a fiber coating reactant through said reaction zone and disrupting at least a portion of said flow of reactant from a path substantially parallel to said fiber path to create a mixing flow adjacent said fiber.

In the Office Action, the Examiner specifically pointed to a citation in the Linn reference, which is reproduced below with emphasis added to relevant portions of the text.

According to the present invention, provision is also made for the short sized fiber bundles to be exposed to a high frequency field in a reactor. When the short fiber bundle enters the high-frequency zone of the reactor, the coating is suddenly decomposed into gaseous products. The resulting gas phase also forces the individual fibers apart. Subsequently, the fibers thus separated are 1) exposed to at least one coating agent present in the gas phase, and 2) CVD coated in the high-frequency field.

The method according to the present invention also makes it possible to coat the cut surfaces of short fibers made by cutting up coated endless fibers. These cut fibers are also CVD-coated in a high frequency field with at least one of the coating agents present in the gas phase. This seals the cut surfaces so that they are unable to react with the composite matrix and are at the same time protected from oxidation.

Linn et al., col. 1 line 64-col. 2 line 11 (emphasis added)

The Linn reference clearly teaches a method of decoating the already coated short fibers and then further coating them using CVD. Linn does not teach or even suggest a method of coating comprising disrupting at least a portion of said flow of reactant from a path substantially parallel to said fiber path to create a mixing flow adjacent said fiber.

Further, Linn specifically recites:

Reactor 30 has an angle of inclination of 45° and a rotational speed  $n_3$  of 5 to 10 rpm. A microwave field is created inside reactor 30. At the same time, reaction gas is introduced into reactor 30 through opening 32, and exits via opening 31. When the fiber bundles enter the microwave zone, the clinging coating (in commercially available fiber bundles) or the clinging matrix (in recycle fiber bundles) breaks down suddenly into gaseous products, so that the individual fibers are separated from each other. The resulting gas phase forces the individual fibers further apart and exits the reactor. The individual fibers are then CVD-coated by the reaction gas. Reactor 30 is heated by the microwave heater with a homogeneous field and/or by inductive heating.

Linn et al., col. 4 line 63- col. 5 line 8 (emphasis added).

Linn specifically teaches the breaking up of short fibers and then subsequently coating the same by CVD using a reaction gas. There is no mention of disrupting the flow of reaction gas to create a mixing flow in the process of coating.

For these reasons among others, the Linn reference fails to teach or suggest each and every feature recited in claim 1. Hence, the Examiner has failed to establish a *prima facie* case of anticipation. Applicant respectfully requests withdrawal of the foregoing rejection of independent claim 1 and dependent claims 2, 4-6, 10-11, and 16 under 35 U.S.C. § 102.

In addition to the features missing from independent claim 1, a number of the dependent claims recite features that are clearly missing from the Linn reference. For example, claim 4 recites a method for coating CMC fiber wherein said fiber comprises a single monofilament fiber. Linn specifically recites "Device 1 is used to coat short fibers on all sides from short fiber bundles." Linn et al, col. 3, lines 36-37. Linn clearly does not teach or suggest a method of coating a single monofilament fiber. For this reason among others, the Linn reference fails to teach or suggest each and every feature recited in claim 4. Hence, the Applicant stresses that the Linn reference does not anticipate claim 4 and, thus, claim 4 is currently in condition for allowance.

#### **Rejections Under 35 U.S.C. § 103**

The Examiner rejected claims 3, 7-9, 12-15 and 17-27 under 35 U.S.C. §103(a) as being unpatentable over Linn. Claims 3, 7-9, 12-15 and 17-27 all depend on independent claim 1. As discussed in detail above, the Linn reference fails to teach or suggest a number of features set forth in claim 1. Accordingly, these dependent claims are believed to be clearly patentable at least by virtue of their dependency from an allowable base claim.

#### **New Claims**

Applicant added new claims 40-45, which include new independent claims 41 and 45. Applicant stresses that the Linn reference fails to teach or suggest a number of features recited in these new claims. For example, the Linn reference does not teach or

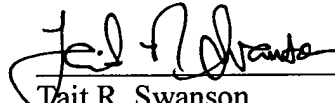
suggest a method comprising flowing a fiber coating reactant back and forth across a fiber passing through a reaction zone. The Linn reference also fails to teach or suggest a method comprising flowing a fiber coating reactant crosswise over a continuous fiber at a plurality of locations as the continuous fiber passes through a reaction zone. For at least these reasons, the Linn reference fails to anticipate or render obvious claims 41-45.

**Conclusion**

In view of the remarks and amendments set forth above, Applicant respectfully requests allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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